

PP-38

Mechanism of Colloidal Gold Nanoparticles Treated Red Ginseng

Ritambhara Privadershi*, Prgya Gupta, Vikas Gupta, Meenu Singh

Dept. of Biotechnology, IILM-College of Engineering and Technology, Greater Noida-201306, Uttar Pradesh

*Email:ritambharatiwary8@gmail.com

Nanotechnology is gaining attention in the field of agriculture for the improvement of crop yield, quality, disease resistivity and their nutrient utilization. For example Gold nanoparticles is used to increase the germination rate, yield of seed, and anti-oxidant potential. Their toxicity potential is matter of concern. To confirm the toxic effect of red Ginseng when come in contact with colloidal Au-NPs while cultivation; intestinal mechanism of rats is preferred. The repeated oral administration of G red Ginseng by rat for about 14-15 days can be considered. On account of which, its body weight, biochemical serum, and other histopathological values defines the toxicoty potential. For study of intestinal mechanism human intestinal follicle associated epithelium (FAE) is most suitable model. There is no significant changes in terms of its body weight, food or water consumption rate, coagulation time, biochemistry of serum etc. And also many studies concluded that there is no any accumulation of Au-NPs in rat's body parts like kidney, lungs, liver etc. but there is 100% chance for increament in the level of saponin. Increased level of saponin makes ginseng functional in terms of lowering cholesterol level, anti-inflammatry effects, energy booster, cancer treatment etc. Au-NPs have a great effect in germination of lettuce and cucumber also. Many studies also suggest that the colloidal Au-NPs have stability of more than 60 days. The colloidal Au-NPs can be applied as fertilizers in ginseng cultivation. The Au-NPs have great potential in terms of improvement of quality of food crops in future. And requires more research for the determination of toxicity potential for long term exposure.

Keywords: Ginseng, nanotechnology, G red Ginseng, colloidal Au-NPs